

# **IV International Conference on Nuclear Structure and Dynamics (NSD2019)**

EPJ Web of Conferences Volume 223 (2019)

Venice, Italy  
13 – 17 May 2019

**Editors:**

**Giacomo de Angelis  
Lorenzo Corradi**

ISBN: 978-1-5108-9932-2

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

This work is licensed under a Creative Commons Attribution 4.0 International License. License details:  
<http://creativecommons.org/licenses/by/4.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2020)

For additional information, please contact EDP Sciences – Web of Conferences at the address below.

EDP Sciences – Web of Conferences  
17, Avenue du Hoggar  
Parc d'Activité de Courtabœuf  
BP 112  
F-91944 Les Ulis Cedex A  
France

Phone: +33 (0) 1 69 18 75 75

Fax: +33 (0) 1 69 28 84 91

[contact-edps@webofconferences.org](mailto:contact-edps@webofconferences.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

CHALLENGING NUCLEAR STRUCTURE OF THE HEAVIEST – OPPORTUNITIES AT $S^3$ .....	1
<i>Ackermann Dieter</i>	
FISSION MODES IN FERMIUM ISOTOPES WITH BROWNIAN SHAPE-MOTION MODEL.....	5
<i>Albertsson Martin, Carlsson B. Gillis, Døssing Thomas, Möller Peter, Randrup Jørgen, Sven Åberg</i>	
MEASUREMENT OF PROTON-DISTRIBUTION RADII OF NEUTRON-RICH NITROGEN ISOTOPES .....	7
<i>Bagchi Soumya, Kanungo Rituparna, Horiuchi Wataru, Hagen Gaute, Morris Titus D., Stroberg Steven Ragnar, Suzuki Toshio, Ameil Frederic, Atkinson Joel, Ayyad Yassid, Cortina-Gil Dolores, Dillmann Iris, Estradé Alfredo, Evdokimov Alexey, Farinon Fabio, Geissel Hans, Guastalla Giulia, Janik Rudolf, Kaur Satbir, Knöbel Ronja, Kurcewicz Jan, Litvinov Yury, Marta Michele, Mostazo Magdalena, Mukha Ivan, Nociforo Chiara, Ong Hooi Jin, Pietri Stephane, Prochazka Andrej, Scheidenberger Christoph, Sitar Branislav, Strmen Peter, Takechi Maya, Tanaka Junki, Tanaka Yoshiki, Tanihata Isao, Terashima Satoru, Vargas Jossitt, Weick Helmut, Winfield John Stuart</i>	
A 21 <sup>ST</sup> CENTURY VIEW OF NUCLEAR STRUCTURE.....	9
<i>Baker Robert B., Draayer Jerry P., Sargsyan Grigor H., Dreyfuss Alison C., Dytrych Tomáš, Kekejian David, Launey Kristina D., Mercenne Alexis</i>	
STRUCTURE AND REACTIONS OF N=7 ISOTONES: PARITY INVERSION AND TRANSFER PROCESSES.....	13
<i>Barranco Francisco, Broglia Ricardo A., Potel Gregory, Vigezzi Enrico</i>	
PHASE TRANSITION DYNAMICS IN HOT NUCLEI AND N/Z INFLUENCE .....	17
<i>Borderie Bernard, Le Neindre Nicolas, Désesquelles Pierre</i>	
COULOMB EXCITATION OF PEAR-SHAPED NUCLEI .....	21
<i>Butler Peter, Gaffney Liam, Spagnoletti Pietro, Konki Joonas, Scheck Marcus, Smith John, Abrahams Kenzo, Bowry Michael, Cederkäll Joakim, Chupp Timothy, De Angelis Giacomo, De Witte Hilde, Garrett Paul, Goldkuhle Alina, Henrich Corinna, Illana Andres, Johnston Karl, Joss David, Keatings James, Kelly Nicola, Komorowska Michalina, Kröll Thorsten, Lozano Miguel, Nara Singh Bondili, O'Donnell David, Ojala Joonas, Page Robert, Pedersen Line, Raison Christopher, Reiter Peter, Rodriguez Jose Alberto, Rosiak Dawid, Rothe Sebastian, Shneidman Timur, Siebeck Burkhard, Seidlitz Michael, Sinclair Jacqueline, Stryczyk Marek, Van Duppen Piet, Vinals Silvia, Virtanen Ville, Warr Nigel, Wrzosek-Lipska Kasia, Zielinska Magda</i>	
THREE-BODY DESCRIPTION OF $^{12}\text{C}$ : FROM THE HYPERSPHERICAL FORMULATION TO THE ALGEBRAIC CLUSTER MODEL AND ITS APPLICATION TO $\alpha + ^{12}\text{C}$ INELASTICSCATTERING.....	26
<i>Casal J., Fortunato L., Vitturi A., Lanza E. G.</i>	

RECENT RESULTS ON HEAVY-ION INDUCED REACTIONS OF INTEREST FOR NEUTRINOLESS DOUBLE BETA DECAY AT INFN-LNS .....	28
<i>Cavallaro Manuela, Acosta Luis, Agodi Clementina, Altana Carmen, Amador-Valenzuela Paulina, Auerbach Naftali, Barea Jose, Bellone Jessica I., Bijker Roelof, Bonanno Danilo, Borello-Lewin Thereza, Boztosun Ismail, Branchina Vincenzo, Brasolin Sandro, Brischetto Giuseppe A., Brunasso Oscar, Burrello Stefano, Calabrese Salvatore, Calabretta Luciano, Calvo Daniela, Capirossi Vittoria, Cappuzzello Francesco, Carbone Diana, Charon Garcia Luis E., Chávez Lomeli Efrain R., Chen Ruofu, Ciraldo Irene, Colonna Maria, D'Agostino Grazia, Delaunay Franck, Deshmukh Nikit, Djapo Haris, De Geronimo Gianluigi, De Los Rios K., Ferraresi Carlo, Ferreira Jonas L., Ferretti Jacopo, Finocchiaro Paolo, Firat Suna, Fisichella Maria, Foti Antonino, Gallo Giuseppe, Garcia-Tecocoatzi Hugo, Hacisalihoglu Aylin, Huerta-Hernandez Arcadio, Kotila Jenni, Kucuk Yasemin, Iazzi Felice, Lanzalone Gaetano, Antonio Lay José, La Fauci Laura, La Via Francesco, Lenske Horst, Linares Roberto, Lo Prest Domenico, Lubian Jesus, Ma Junbing, Marin-Lámbarri Daniel, Mas Ruiz J., Medina Nilberto H., Mendes Djalma R., Mereu Paolo, Moralles Mauricio, Neri Lorenzo, Oliveira José R. B., Pakou Athena, Pandola Luciano, Petrascu Horia, Pietralla Norbert, Pinna Federico, Reito Santo, Ries Philipp C., Rodrigues Marcia R. D., Russo Antonio D., Russo Giuseppe, Santopinto Elena, Santos Roberto B. B., Serbina Leonardo, Sgouros Onoufriou, Da Silveira Marcilei A. G., Solakci Selçuk O., Souliotis George, Soukeras Vasileios, Spatafora Alessandro, Torresi Domenico, Ameil Frederic, Tudisco Salvatore, Vargas Hernandez Hesiquio, Vsevolodovna Ruslan I. M., Wang Jan Song, Werner Volker, Yang Yan Yun, Yildirin Aydin, Zagatto Vinicius A. B.</i>	
COMPARATIVE STUDY OF FOUR REACTIONS AT ONSET OF PRE-EQUILIBRIUM EMISSION .....	33
<i>Cicerchia Magda, Gramegna Fabiana, Fabris Daniela, Marchi Tommaso, Cinausero Marco, Mantovani Giorgia, Degerlier Meltem, Barlini Sandro, Bini Maurizio, Bruno Mauro, Caciolli Antonio, Camaiani Alberto, Casini Giovanni, Cieplicka-Orynczak Natalia, Collazuol Gianmaria, D'Agostino Michela, Dell'Aquila Daniele, Fornal Bogdan, Frosin Catalin, Gelli Nicla, Gruyer Diego, Kravchuk Vladimir, Leoni Silvia, Lombardo Ivano, Mengoni Daniele, Morelli Luca, Olmi Alessandro, Ottanelli Pietro, Pasquali Gabriele, Piantelli Silvia, Poggi Giacomo, Valdré Simone</i>	
NEW INVESTIGATIONS ON THE $^{32}\text{S}(^3\text{He},\text{D})^{33}\text{Cl}$ REACTION AT 9.6 MEV BOMBARDING ENERGY .....	37
<i>Cinausero Marco, Dell'Aquila Daniele, Lombardo Ivano, Vigilante Mariano, Barlini Sandro, Bolzonella Riccardo, Bruno Mauro, Buccola Antonio, Carturan Sara M., Casini Giovanni, Cicerchia Magda, D'Andrea Maurizio, Degerlier Meltem, Fabris Daniela, Gasques Leandro, Gramegna Fabiana, Lepine-Szily Alinka, Mantovani Giorgia, Marchi Tommaso, Piantelli Silvia, Rigato Valentino, Scomparin Luca, Valdré Simone</i>	
STUDY OF THE NEUTRON-RICH REGION IN THE VICINITY OF $^{208}\text{Pb}$ VIA MULTINUCLEON TRANSFER REACTIONS .....	39
<i>Èolovia Petra, Illana Andrés, Szilner Suzana, Valiente-Dobón Jose-Javier, Corradi Lorenzo, Mijatovic Tea, Benzoni Giovanna, García Borge María José, Boso Alberto, Ceruti Simone, Cubiss James, De Angelis Giacomo, Fioretto Enrico, Galtarossa Franco, Gaffney Liam Paul, Jurado-Gomez Maria De La Luz, Kröll Thorsten, Marchi Tommaso, Menegazzo Roberto, Mengoni Daniele, Napoli Daniel R., Podolyak Zsolt, Pollarolo Giovanni, Recchia Francesco, Testov Dmitry</i>	
STUDY OF SUB-BARRIER FUSION OF $^{36}\text{S}+^{50}\text{Ti},^{51}\text{V}$ SYSTEMS .....	43
<i>Colucci Giulia, Montagnoli Giovanna, Stefanini Alberto M., Hagino Kouichi, Caciolli Antonio, Èolovia Petra, Corradi Lorenzo, Fioretto Enrico, Galtarossa Franco, Goasduff Alain, Grebosz Jerzy, Mazzocco Marco, Montanari Daniele, Parascandolo Concetta, Scarlassara Fernando, Siciliano Marco, Strano Emanuele, Szilner Suzana, Vukman Nikola</i>	

SYSTEMATIC SEARCH FOR EVIDENCE OF TETRAHEDRAL AND OCTAHEDRAL SYMMETRIES IN SUBATOMIC PHYSICS: FOLLOW-UP OF THE FIRST IDENTIFICATION CASE IN <sup>152</sup> SM.....	45
<i>Dudek Jerzy, Dedes Irene, Gaamouci Abdelghafar, Yang Jie, Baran Andrzej, Curien Dominique, Dickel Timo, Wang Hua-Lei</i>	
OPTICAL POTENTIALS: MICROSCOPIC VS. PHENOMENOLOGICAL APPROACHES.....	51
<i>Finelli Paolo, Vorabbi Matteo, Giusti Carlotta</i>	
STRUCTURAL INVESTIGATION OF NEUTRON-DEFICIENT PT ISOTOPES: THE CASE OF <sup>178</sup> PT.....	55
<i>Fransen Christoph, Mammes Franziska, Bark Robert, Braunroth Thomas, Buthelezi Zinhle, Dewald Alfred, Dinoko Tshepo, Förtsch Siegie, Hackstein Matthias, Jolie Jan, Jones Pete, Lawrie Elena, Litzinger Julia, Müller-Gatermann Claus, Newman Richard, Saed-Samii Nima, Sharpey-Schafer John F., Shirinda Obed, Smit Ricky, Warr Nigel, Wiedeking Mathis, Zell Karl-Oskar</i>	
DECOHERENCE OF COLLECTIVE MOTION IN WARM NUCLEI.....	59
<i>Frauendorf S., Petrache C. M., Schwengner R., Wimmer K.</i>	
CHIRAL THREE-BODY FORCE AND MONOPOLE PROPERTIES OF SHELL-MODEL HAMILTONIAN.....	65
<i>Fukui Tokuro, Coraggio Luigi, De Angelis Luca, Gargano Angela, Itaco Nunzio, Ma Yuanzhuo, Xu Furong</i>	
PARTICLE-HOLE CLUSTER SHELL MODEL STATES IN 8BE, A CHALLENGE FOR AB-INITIO NUCLEAR THEORIES.....	69
<i>Gai Moshe</i>	
RECENT APPLICATIONS OF THE SUBTRACTED SRPA APPROXIMATION.....	73
<i>Gambacurta Danilo</i>	
INTERTWINED QUANTUM PHASE TRANSITIONS IN THE ZR CHAIN.....	77
<i>Gavrielov N., Leviatan A., Iachello F.</i>	
PRELIMINARY RESULTS OF LIFETIME MEASUREMENTS IN NEUTRON-RICH <sup>53</sup> TI.....	81
<i>Goldkuhle Alina, Fransen Christoph, Dewald Alfred, Alahari Navin, Beckers Marcel, Birkenbach Benedikt, Blazhev Andrey, Braunroth Thomas, Clément Emmanuel, De France Gilles, Dudouet Jérémie, Eberth Jürgen, Hess Herbert, Jacquot Bertrand, Kim Yung-Hee, Lemasson Antoine, Lenzi Silvia Monica, Li Hongjie, Ljungvall Joa, Litzinger Julia, Michelagnoli Caterine, Müller-Gatermann Claus, Napoli Daniel Ricardo, Nara Singh Bondili Sreenivasa, Perez-Vidal Rosa Maria, Ralet Damian, Reiter Peter, Rejmund Maurycy, Vogt Andreas, Warr Nigel, Zell Karl Oskar, Zielińska Magda</i>	
DISCOVERY OF COLLECTIVE STATES IN <sup>208</sup> PB BY COMPLETE SPECTROSCOPY.....	85
<i>Heusler Andreas</i>	
SHAPE TRANSITION IN THE NEUTRON-RICH Y NUCLEI AND ITS EVOLUTION ACROSS THE ISOTOPIC CHAIN.....	89
<i>Iskra . Ukasz W., Fornal Bogdan, Leoni Silvia, Michelagnoli Caterina, Bottoni Simone, Cieplicka. Ory. Czak Natalia, Jentschel Michael, Kandzia Felix, Kim Yung Hee, Koster Ulli, Porzio Carlotta</i>	
NEUTRINOLESS DOUBLE-BETA DECAY AND REALISTIC SHELL MODEL.....	92
<i>Itaco Nunzio, Coraggio Luigi, Mancino Riccardo</i>	

ENHANCED MONOPOLE AND DIPOLE TRANSITIONS IN NUCLEI INDUCED BY $\dot{A}$ CLUSTER STRUCTURES.....	97
<i>Ito Makoto, Nakao Makoto, Okuno Tomoyuki, Ebata Syuuichiro</i>	
INTERESTING STATES IN A = 10 MASS REGION, POPULATED IN $^{10}\text{B} + ^{10}\text{B}$ NUCLEAR REACTIONS.....	101
<i>Malenica De. A Jelavi., Milin Matko, Di Pietro Alessia, Figuera Pierpaolo, Lattuada Marcello, Miljani. Duro, Musumarra Agatino, Pellegriti Maria Grazia, Scuderi Valentina, Skukan Natko, Soi. Neven, Szilner Suzana, Torresi Domenico, Uroi. Milivoj</i>	
MASSES AND BETA-DECAY STUDIES OF NEUTRON-RICH NUCLEI USING THE X- ARRAY AND GAMMASPHERE.....	105
<i>Kondev F. G., Hartley D. J., Orford R., Clark J. A, Savard G., Auranen K., Ayangeakaa A. D., Bottoni S., Carpenter M. P., Copp P., Hicks K., Hoffman C. R., Janssens R. V. F., Kay B. P., Lauritsen T., Li T., Marley S. T., Morgan G. E., Mukherjee G., Nandi S., Reviol W., Sethi J., Seweryniak D., Stolze S., Wu J., Yadav R., Zhu S.</i>	
SPIN-TENSOR DECOMPOSITION: A USEFUL TOOL FOR SHELL MODEL EFFECTIVE INTERACTION .....	109
<i>Kumar Pawan, Sarkar Shahariar, Singh Pushpendra . P, Raina P. K.</i>	
APPLICATION OF THE THM TO THE INVESTIGATION OF REACTIONS INDUCED BY UNSTABLE NUCLEI: THE $^{18}\text{F}(\text{p},\alpha)^{15}\text{O}$ CASE .....	111
<i>La Cognata Marco, Pizzone Rosario G., José Jordi, Hernanz Margarita, Cherubini Silvio, Gulino Marisa, Rapisarda Giuseppe G., Spitaleri Claudio</i>	
HEAVY ION CHARGE EXCHANGE REACTIONS AS PROBES FOR BETA-DECAY.....	115
<i>Lenske Horst</i>	
REVEALING MICROSCOPIC ORIGINS OF SHAPE COEXISTENCE IN THE NI ISOTOPIC CHAIN .....	119
<i>Leoni Silvia, Fornal Bogdan, Marginean Nicolae, Sferrazza Michele, Tsunod Yusuke, Otsuka Takaharu</i>	
NUCLEAR RESPONSE AT ZERO AND FINITE TEMPERATURE.....	125
<i>Litvinova Elena, Schuck Peter, Wibowo Herlik</i>	
ANALYSIS OF EXCITED STATES IN $^{13}\text{C}$ AND THEIR CLUSTER STRUCTURE .....	129
<i>Lombardo Ivano</i>	
ROLE OF CORRELATIONS IN TWO-NEUTRON TRANSFER REACTIONS .....	132
<i>Lubian Jesus, Ferreira Jonas L., Linares Roberto, Cardozo Erica N., Paes Barbara, Cappuzzello Francesco, Carbone Diana, Cavallaro Manuela, Da Silva Uiran U., Lichtenthäler Ruben</i>	
FOUR $\alpha$ -PARTICLES AS A FINAL STATE OF $^{16}\text{O}^*$ QUASI PROJECTILE DECAY .....	136
<i>Managlia Maria Vittoria, Bruno Mauro, D'Agostino Michela, Morelli Luca, Baiocco Giorgio, Gulminelli Francesca, Frosin Catalin, Barlini Sandro, Buccola Antonio, Camaiani Alberto, Casini Giovanni, Cicerchia Magda, Cinausero Marco, Fabris Daniela, Gramegna Fabiana, Mantovani Giorgia, Marchi Tommaso, Ottanelli Pietro, Pasquali Gabriele, Piantelli Silvia, Valdré Simone</i>	

STUDY OF HIGH-ENERGY FISSION IN INVERSE KINEMATICS.....	138
<i>Mantovani G., Ramos D., Caamaño M., Lemasson A., Rejmund M., Audoin L., Álvarez Pol H., Frankland J., Fernández-Domínguez B., Galiana-Baldó E., Piot J., Gramegna F., Marchi T., Cicerchia M., Ackermann D., Biswas S., Clement E., Durand D., Farget F., Fregeau M. O., Galaviz D., Heinz A., Henriques A. I., Jacquot B., Jurado B., Kim Y., Morfouace P., Ralet D., Roger T., Schmitt C., Teubig P., Tsekhanovich I.</i>	
SHAPE COEXISTENCE IN <sup>94</sup> ZR STUDIED VIA COULOMB EXCITATION .....	140
<i>Marchini Naomi, Rocchini Marco, Nannini Adriana, Doherty Daniel T., Zieľiška Magdalena, Garrett Paul E., Hadyňska-Klĕk Katarzyna, Testov Dmitry, Goasduff Alain, Benzoni Giovanna, Camera Franco, Bakes Samuel D., Bazzacco Dino, Bergmaier Andreas, Berry Thomas, Bidaman Harris, Bildstein Vinzenz, Brugnara Daniele, Brunet Vincent H., Catford Wilton N., De Rizzo Matteo, Diaz Varela Alejandra, Fäestermann Thomas, Galtarossa Franco, Gelli Nicla, Gottardo Andrea, Gozzellino Andrea, Hertemberger Ralf, Illana Andres, Keatings James, Kennington Adam R. L., Mengoni Daniele, Morrison Lisa, Napoli Daniel R., Ottanelli Marco, Pasqualato Giorgia, Recchia Francesco, Ricetto Serena, Scheck Marcus, Siciliano Marco, Sighinolfi Giovanni, Sinclair Jacqueline, Spagnoletti Pietro, Valiente Dobón José J., Vandebrouck Marine, Wrzosek-Lipska Katarzyna, Zanon Irene</i>	
MULTINUCLEON TRANSFER REACTIONS AND PROTON TRANSFER CHANNELS .....	144
<i>Mijatoviæ Tea, Szilner Suzana, Corradi Lorenzo, Galtarossa Franco, Bakes Samuel, Brugnara Daniele, Carozzi Gabriele, Colucci Giulia, Eoloviæ Petra, Fioretto Enrico, Gadea Andres, Goasduff Alain, Gottardo Andrea, Jaworski Grzegorz, Jelaviæ Malenica Deša, Marchi Tommaso, Mengoni Daniele, Milin Matko, Montagnoli Giovanna, Nurkiæ Deni, Pollarolo Giovanni, Popoèovski Romana, Scarlassara Fernando, Siciliano Marco, Soia Neven, Stefanini Alberto, Testov Dmitry, Ur Calin, Valiente - Dobón Jose Javier, Vukman Nikola, Zanon Irene</i>	
ALPHA CORRELATIONS IN TERMS OF THE HYPER-PFAFFIAN .....	148
<i>Mizusaki Takahiro, Schuck Peter</i>	
FUSION HINDRANCE IN LIGHT AND HEAVY SYSTEMS.....	150
<i>Montagnoli Giovanna</i>	
NEW RESULTS ON EXCITED STATES IN THE ONE-PARTICLE ONE-HOLE NUCLEUS <sup>56</sup> CO MEASURED WITH MINIBALL DETECTORS .....	156
<i>Montaner-Pizá A., Rubio B., Mücher D., Orrigo S. E. A., Simpson E. C., Gelletly W., Agramunt J., Algora A., Bender C., Fujita Y., Ganioglu E., Guadilla V., Hellgartner S., Reichert S.</i>	
SPONTANEOUS FISSION OF RUTHERFORDIUM ISOTOPES - TOTAL KINETIC ENERGIES.....	158
<i>Mosat Pavol, Heßberger Fritz Peter, Ackermann Dieter, Andel Boris, Antalic Stanislav, Block Michael, Hofmann Sigurd, Kalaninova Zdenka, Kindler Birgit, Laatiaoui Mustapha, Lommel Bettina, Mistry Andrew, Nishio Katsuhisa, Piot Julien, Sulignano Barbara, Vostinar Marija</i>	
COULOMB ENERGY DENSITY FUNCTIONALS FOR NUCLEAR SYSTEMS: RECENT STUDIES OF COULOMBEXCHANGE AND CORRELATION FUNCTIONALS.....	160
<i>Naito Tomoya, Akashi Ryosuke, Colò Gianluca, Liang Haozhao, Roca-Maza Xavier</i>	
HOW DO WE INFER SHELL EFFECTS AT HIGH-EXCITATION ENERGIES? A NEW SPECTROSCOPIC PROBE TO SEARCH FOR MAGIC NUMBERS.....	162
<i>Ngwetsheni Cebo, Orce José Nicolás</i>	

COEXISTENCE AND EVOLUTION OF SHAPES: MEAN-FIELD-BASED INTERACTING BOSON MODEL .....	168
<i>Nomura Kosuke</i>	
HIDDEN SYMMETRIES IN THE HFB NORM OVERLAP FUNCTIONS .....	174
<i>Oi Makito, Mizusaki Takahiro, Shimizu Noritaka, Sun Yang</i>	
LIFETIME MEASUREMENTS IN $^{105}\text{Sn}$ : THE PUZZLE OF $B(E2)$ STRENGTHS IN SN ISOTOPES .....	176
<i>Pasqualato Giorgia, Gottardo Andrea, Goasduff Alain, Valiente Dobón Josè Javier, Mengoni Daniele</i>	
THICK-TARGET INVERSE KINEMATIC METHOD IN ORDER TO INVESTIGATE ALPHA- CLUSTERING IN $^{212}\text{Po}$ .....	178
<i>Pellegriti Maria Grazia, Musumarra Agatino, De Filippo Enrico, De Napoli Marzio, Di Pietro Alessia, Figuera Pierpaolo, Fisichella Maria, Maiolino Concettina, Rifuggiato Danilo, Santonocito Domenico, Scuderi Valentina, Strano Emanuele, Torresi Domenico</i>	
LIGHTS AND (SOME) SHADOWS IN THE COMPARISON AMONG EXPERIMENTAL DATA OF HEAVY ION COLLISION AT FERMI ENERGIES AND THE DYNAMICAL MODEL AMD .....	182
<i>Piantelli Silvia, Olmi Alessandro, Maurenzig Paolo R., Ono Akira, Bini Maurizio, Casini Giovanni, Mangiarotti Alessio, Pasquali Gabriele, Poggi Giacomo, Stefanini Andrea, Barlini Sandro, Camaiani Alberto, Ciampi Caterina, Frosin Catalin, Ottanelli Pietro, Valdré Simone</i>	
INTERMEDIATE MASS FRAGMENTS PRODUCTION AT LOW ENERGY: REACTION MECHANISM AND ISOSPIN INFLUENCE .....	184
<i>Pirrone Sara, Politi Giuseppe, Gnoffo Brunilde, De Filippo Enrico, Russotto Paolo, Cardella Giuseppe, Geraci Elena, Lo Monaco Luigi, Martorana Nunzia Simona, Pagano Angelo, Pagano Emanuele Vincenzo, Piasecki Ernest, Rizzo Francesca, Russo Antonio, Trimarchi Marina</i>	
FUSION PROBABILITY OF MASSIVE NUCLEI IN REACTIONS LEADING TO HEAVY COMPOSITE NUCLEAR SYSTEMS .....	188
<i>Sagaidak Roman</i>	
SINGLE AND DOUBLE CHARGE EXCHANGE EXCITATIONS OF SPIN-ISOSPIN MODE .....	192
<i>Sagawa Hiroyuki</i>	
PROBING THE NUCLEAR STRUCTURE IN THE VICINITY OF $^{78}\text{Ni}$ .....	196
<i>Sahin E., Hadynska-Klek K., Bello Garrote F. L., Gørgen A.</i>	
ROLE OF CHARGE EQUILIBRATION IN MULTINUCLEON TRANSFER IN DAMPED COLLISIONS OF HEAVY IONS .....	202
<i>Saiko Vyacheslav, Karpov Alexander</i>	
QUARTET STRUCTURE OF SELF-CONJUGATE NUCLEI .....	206
<i>Sambataro Michelangelo</i>	
VARIATION OF NMES OF $0\nu\beta\beta$ FOR $^{48}\text{Ca}$ WITH DIFFERENT COMPONENTS OF NN INTERACTION .....	210
<i>Sarkar Shahariar, Kumar Pawan, Jha Kanhaiya, Raina P. K.</i>	



STUDY OF CONTINUUM EXCITATION BY LIGHT WEAKLY BOUND PROJECTILES ON PROTON TARGET .....	212
<i>Sgouros O., Soukeras V., Pakou A., Cappuzzello F., Acosta L., Agodi C., Alamanos N., Calabrese S., Carbone D., Cavallaro M., Foti A., Keeley N., Martel I., Rusek K., Torresi D.</i>	
EVOLUTION OF NUCLEAR SPIN-ORBIT SPLITTINGS WITH SKYRME FUNCTIONAL SAMI-T .....	214
<i>Shen Shihang, Colò Gianluca, Roca-Maza Xavier</i>	
NUCLEAR STRUCTURE IN THE NEUTRON-DEFICIENT SN NUCLEI TKEL EFFECTS ON LIFETIME MEASUREMENTS .....	217
<i>Siciliano Marco, Valiente-Dobón José-Javier, Goasduff Alain</i>	
THE ${}^3\text{H}(\alpha, \gamma){}^7\text{Li}$ AND ${}^3\text{He}(\alpha, \gamma){}^7\text{Be}$ RADIATIVE CAPTURE REACTIONS IN A WIDE ENERGY RANGE .....	221
<i>Solovyev Alexander</i>	
FUSION HINDRANCE AND PAULI BLOCKING IN ${}^{58}\text{Ni} + {}^{64}\text{Ni}$ .....	223
<i>Stefanini Alberto M., Montagnoli Giovanna, Del Fabbro Mirco, Colucci Giulia, Èoloviæ Petra, Corradi Lorenzo, Fioretto Enrico, Galtarossa Franco, Goasduff Alain, Grebosz Jerzy, Heine Marcel, Jaworski Grzegorz, Mazzocco Marco, Mijatoviæ Tea, Szilner Suzana, Bajzek Martin, Brugnara Daniele, Siciliano Marco, Zanon Irene</i>	
FORBIDDEN TRANSITIONS IN NUCLEAR WEAK PROCESSES RELEVANT TO NEUTRINO DETECTION, NUCLEOSYNTHESIS AND EVOLUTION OF STARS .....	227
<i>Suzuki Toshio, Chiba Satoshi, Yoshida Takashi, Takahashi Koh, Umeda Hideyuki, Nomoto Ken'Ichi</i>	
RECENT STUDIES OF HEAVY ION TRANSFER REACTIONS USING LARGE SOLID ANGLE SPECTROMETERS .....	231
<i>Szilner Suzana, Corradi Lorenzo, Pollarolo Giovanni, Colucci Giulia, Èoloviæ Petra, Fioretto Enrico, Galtarossa Franco, Goasduff Alain, Marchi Tommaso, Mijatoviæ Tea, Montagnoli Giovanna, Montanari Daniele, Scarlassara Fernando, Stefanini Alberto M., Valiente-Dobón Javier Jose</i>	
NUCLEAR PHYSICS IN STELLAR LIFESTYLES WITH THE TROJAN HORSE METHOD .....	237
<i>Tumino Aurora, Spitaleri Claudio, La Cognata Marco, Cherubini Silvio, Guardo Giovanni Luca, Gulino Marisa, Indelicato Iolanda, Lamia Livio, Pizzone Rosario Gianluca, Rapisarda Giuseppe Gabriele, Romano Stefano, Sergi Maria Letizia, Spartà Roberta</i>	
EQUILIBRATION DYNAMICS IN NUCLEAR REACTIONS .....	242
<i>Umar A. S., Simenel C., Ayik S., Godbey K.</i>	
SPECTROSCOPY OF NATURAL PARITY STATES IN ${}^{20}\text{Ne}$ VIA THE ${}^{19}\text{F}(\text{P}, \alpha_0)$ AND ${}^{19}\text{F}(\text{P}, \alphaPI)$ REACTIONS AT LOW ENERGIES .....	246
<i>Vigilante Mariano</i>	
IDENTIFICATION OF DIFFERENT REACTION CHANNELS IN ${}^6\text{Li} + {}^{89}\text{Y}$ EXPERIMENT BY THE PARTICLES- $\gamma$ COINCIDENCE MEASUREMENT .....	248
<i>Wang M. L., Zhang G. X., Zhang G. L., Hu S. P., Qu W. W., Zhang H. Q., Huang Z., Xiang J. B., Yao Y. J., Sun H. B., Valiente-Dobón J. J., Testov D., Goasduff A., John P. R., Siciliano M., Galtarossa F., Francesco R., Mengoni D., Bazzacco D.</i>	

EXPERIMENTAL STUDIES OF NEUTRON-RICH NUCLEI AROUND N = 126 AT KEK ISOTOPE SEPARATION SYSTEM .....	251
<i>Watanabe Yutaka, Hirayama Yoshikazu, Mukai Momo, Ahmed Murad, Kakiguchi Yutaka, Miyatake Hiroari, Oyaizu Michihiro, Schury Peter, Wada Michiharu, Kimura Sota, Ishiyama Hironobu, Jeong Sun-Chan, Moon Jun Young, Park Jin Hyung</i>	
SHAPE TRANSITIONS BETWEEN AND WITHIN ZR ISOTOPES.....	257
<i>Werner V., Witt W., Beck T., Pietralla N., Boromiza M., Clisu C., Costache C., Dinescu I. E., Ionescu A., John P. R., Koseoglou P., Marginean N., Marginean R., Mihai C., Mihai R. E., Mitu A., Negret A., Nita C. R., Olacel A., Pascu S., Serban A., Sotty C., Stan L., Suvaila R., Toma S., Turturica A., Ujenic S., Wiederhold J.</i>	
REACTIONS WITH EXOTIC NUCLEI AT NEAR AND SUB-BARRIER ENERGIES .....	261
<i>Yang Lei, Lin Chengjian, Jia Huiming, Ma Nanru, Wang Dongxi, Yang Feng, Sun Lijie, Xu Xinxing, Wen Peiwei, Zhong Fupeng</i>	
STUDY OF NEUTRON-DEFICIENT MERCURY ISOTOPES PRELIMINARY RESULTS ON <sup>189</sup> HG .....	265
<i>Zanon Irene, Siciliano Marco, Goasduff Alain, John Philipp R.</i>	

**Author Index**